



STATE OF TENNESSEE

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Memorandum

To: Honorable Bill Haslam, Governor
Honorable Justin P. Wilson, Comptroller of the Treasury
Honorable Tre Hargett, Secretary of State
Honorable David H. Lillard, Jr., Treasurer
Honorable Larry Martin, Commissioner of Finance and Administration

From: William Wood, Budget Analyst, Comptroller of the Treasury

Date: March 13, 2018

Re: Economic Report to the Governor

This memo considers the reasonableness of the economic projections published in the annual *Economic Report to the Governor* (<http://cber.haslam.utk.edu/erg/erg2018.pdf>) from the Boyd Center for Business and Economic Research (CBER) at the University of Tennessee. In addition, the memo examines consumer spending, the labor market and unemployment rates, and also considers possible economic outcomes of emerging federal policies.

In short, Comptroller's staff analysis finds:

- **CBER's projections for Tennessee nominal personal income do not appear to be unreasonable.** The CBER report predicts that Tennessee nominal personal income will grow by 4.30 percent and 4.28 percent in calendar years 2018 and 2019, respectively. On a fiscal year timeline, nominal personal income is expected to increase by 3.90 percent in 2018, and 4.40 percent in 2019. Although few agencies track Tennessee personal income statistics, the state's personal income growth has historically tracked closely alongside growth in the U.S. Gross Domestic Product (GDP). CBER's projections for U.S. GDP fall within the range of other figures quoted by various other forecasting sources, leading staff to conclude that CBER's estimate for Tennessee personal income is similarly reasonable.
- **Tennessee's unemployment rate has fallen to its lowest level since the Great Recession, but the number of people reportedly unable to find full-time work is still high.** In December 2017, Tennessee's unemployment rate was 3.2 percent, 0.9 percent lower than the national rate. Although the overall unemployment rate has

Statutory Authority

Tennessee Code Annotated (TCA) § 9-4-5202 requires the State Funding Board (the Board) to secure estimates of Tennessee's economic growth from the Tennessee econometric model at least once a year. These estimates are published annually in the *Economic Report to the Governor* by the University of Tennessee's Boyd Center for Business and Economic Research (CBER). The report includes data on such indicators as nominal personal income, employment, inflation, consumer spending, and the housing market for Tennessee and the United States as a whole.

The statute also requires the Board to comment on the "reasonableness" of CBER's projections, and provide different estimates, if necessary. As specified in TCA § 9-4-5201, the rate of Tennessee's economic growth is based on the projected changes in Tennessee nominal personal income.

The Comptroller's staff assists the Board by evaluating information on current economic conditions and trends provided by commonly referenced sources in economic forecasting.

decreased, it may be artificially low in part because of fewer people participating in the labor force: Tennessee's labor force participation rate in 2017 was 62.7 percent, which was less than the 64.6 percent rate of 2006.

CBER's projections fall within the range of other forecasts

The CBER economic report predicts that Tennessee nominal personal income will grow by 4.30 and 4.28 percent in calendar years 2018 and 2019, respectively. On a fiscal year timeline, personal income is expected to increase by 3.90 percent in fiscal year 2018, and 4.40 percent in 2019 (Exhibit 1).¹

Exhibit 1: CBER's Estimated Tennessee Personal Income Growth

Forecast Year	Calendar Year	Fiscal Year
2017	3.64%	—
2018	4.30%	3.90%
2019	4.28%	4.40%

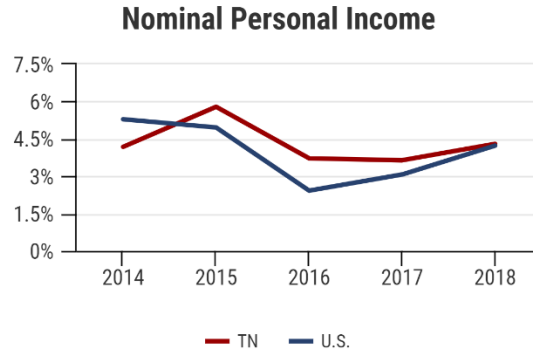
¹ Matthew N. Murray et al., *An Economic Report to the Governor of the State of Tennessee: The State's Economic Outlook January 2018*, Boyd Center for Business and Economic Research, University of Tennessee, January 2018, pp. 34, <http://cber.haslam.utk.edu>.

AT A GLANCE

Tennessee's Economic Outlook

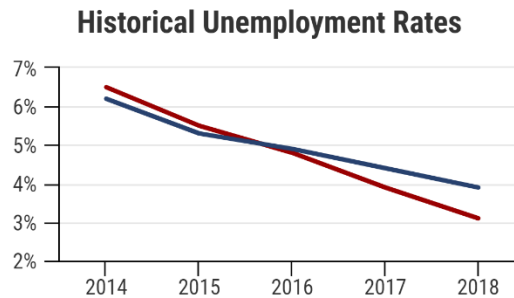
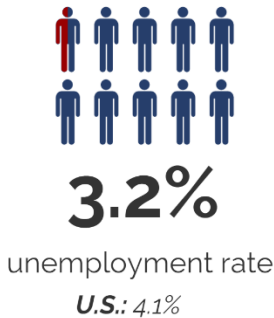
2018

projections from the
Boyd Center for
Business and
Economic Research

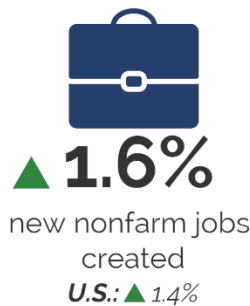
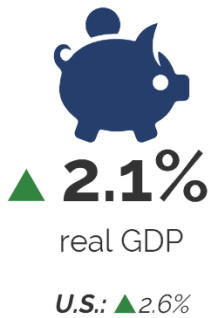


Quick Facts

Tennessee's sales tax revenue **was up 3.3 percent**, well above the 2.5 percent national average.

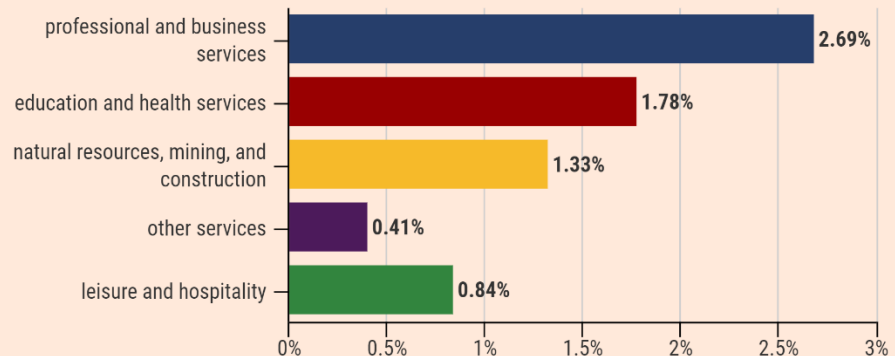


Tennessee recorded **9,326 new entity filings (i.e. initial filings)** during the third quarter of 2017, representing a 4.8 percent increase over the same quarter last year. Initial filings have now seen positive year-over-year growth for 24 consecutive quarters.



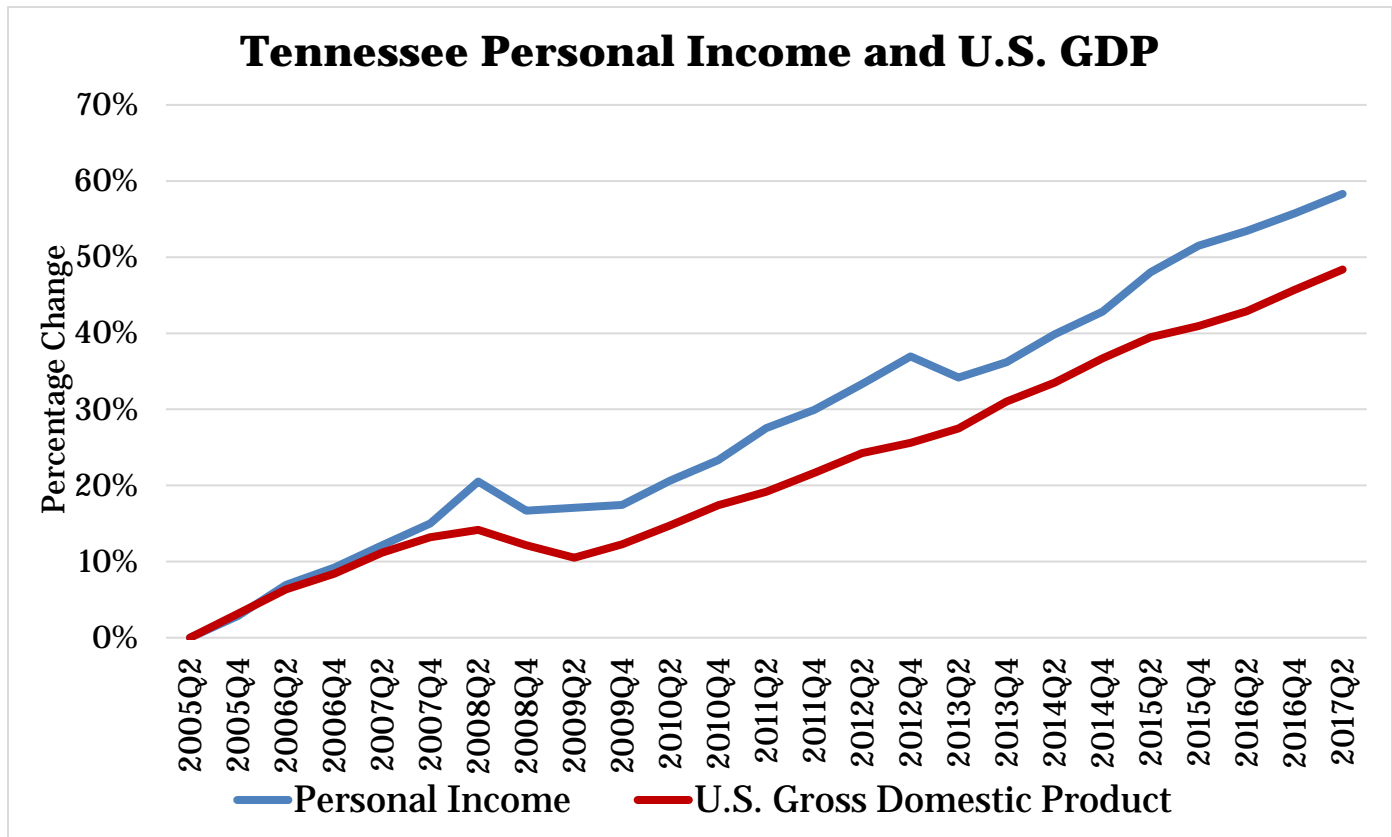
Tennessee's Fastest Growing Industries

Nonfarm employment is expected to grow for the eighth consecutive year.



Few agencies estimate growth in Tennessee personal income, making it difficult to directly compare CBER's projections with other sources. Tennessee personal income closely tracks growth in the state's Gross Domestic Product (GDP), however, and the state GDP figure typically mirrors the national GDP. Consequently, U.S. GDP may be used as a proxy for Tennessee GDP, which, in turn, may stand in for Tennessee personal income – in fact, the two figures often track closely (Exhibit 2). Thus, in the end, staff may compare the many estimates of U.S. GDP growth to CBER's projections, and use the result to judge the reasonableness of CBER's personal income predictions.

Exhibit 2: Relative Growth of Tennessee Personal Income and U.S. GDP



Source: U.S. Bureau of Economic Analysis, Tennessee Personal Income by Major Component, Gross Domestic Product, January 27, 2018, www.bea.gov.

CBER projects that U.S. GDP will grow 2.6 percent in calendar year 2018. This figure falls within a range of government and non-government forecasts: Raymond James predicts 2.3 percent growth over this period, while Fannie Mae and Wells Fargo forecast a 2.7 percent increase. For calendar year 2019, CBER's projection of 2.3 percent GDP growth falls between the low of 1.9 percent from the Royal Bank of Canada and the high of 2.7 percent from Raymond James (Exhibit 3).

Because CBER's estimates for U.S. GDP fall within the range of predictions from other reputable sources, Comptroller's staff finds that CBER's projections for Tennessee personal income growth are not unreasonable.

Exhibit 3: Government and Non-Government GDP Forecasts

Forecaster	CY 2018	CY 2019	Date
World Bank	2.5	2.2	January 2018
Fannie Mae	2.7	2.3	January 2018
Freddie Mac	2.5	2.1	January 2018
Raymond James	2.3	2.7	January 2018
Deutsche Bank	2.6	2.3	December 2017
Federal Reserve Bank	2.5	2.1	December 2017
Royal Bank of Canada	2.5	1.9	December 2017
Wells Fargo	2.7	2.5	December 2017
<i>High</i>	2.7	2.7	
<i>Median</i>	2.5	2.3	
<i>Low</i>	2.3	1.9	
CBER	2.6	2.3	January 2018

Source: World Bank, *Global Economic Prospects, January 2018*, p. 4, <https://www.worldbank.org>; Fannie Mae, "Economic Forecast: January 2018," January 10, 2018, p. 1, <http://www.fanniemae.com>; Freddie Mac, "Maintaining Momentum: 2018 and Beyond," January 2018, p. 9, <http://www.freddiemac.com>; Scott J. Brown, "Monthly Economic Outlook," Raymond James & Associates, January 30, 2018, p. 2, <https://www.raymondjames.com>; Barbara Böttche et al., *Outlook 2018: Robust Growth – fragile politics*, Deutsche Bank, December 15, 2017, p. 2, <https://www.dbresearch.com>; Federal Reserve Bank, "Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents under their individual assessments of projected appropriate monetary policy," December 13, 2017, p. 1, <https://www.federalreserve.gov>; Royal Bank of Canada, "Economic and Financial Market Outlook," December 2017, p. 6, <http://www.rbc.com>; Wells Fargo, "2018 Annual Economic Outlook," December, 2017, p. 22, <https://www.wellsfargo.com>; Matthew N. Murray et al., *An Economic Report to the Governor of the State of Tennessee: The State's Economic Outlook January 2018*, Boyd Center for Business and Economic Research, University of Tennessee, January 2018, p. 35, <http://cber.haslam.utk.edu>.

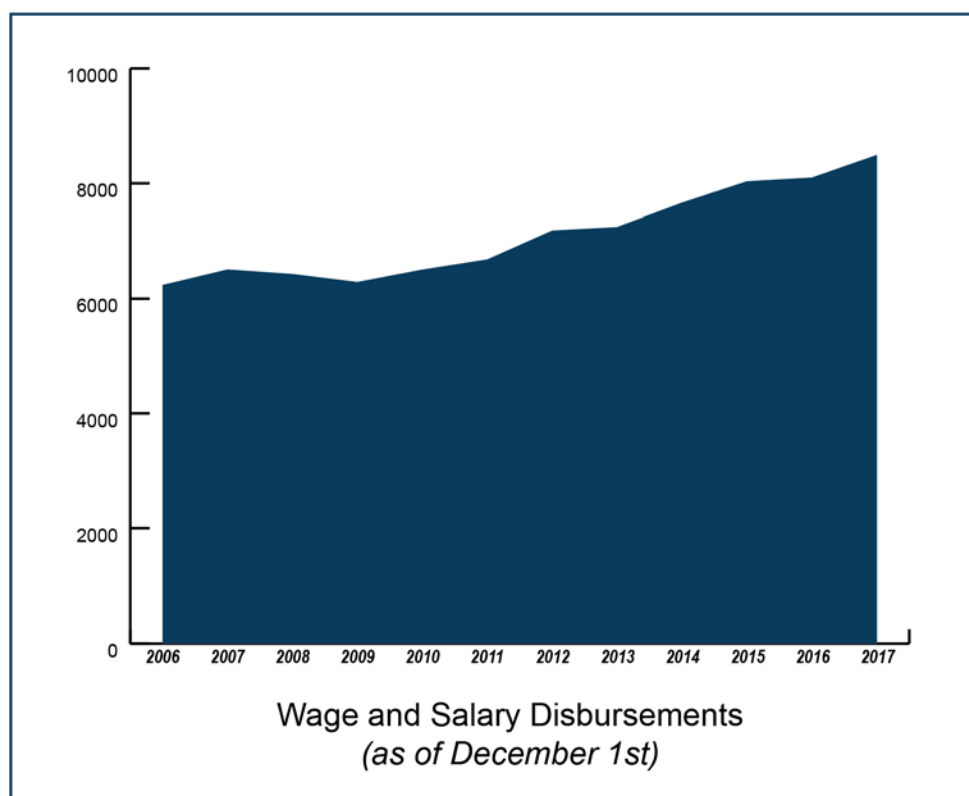
U.S. Economy

U.S. GDP is one of the broadest measures of economic activity for the national economy and is composed of personal consumption expenditures, investment, government purchases, and the balance of trade. Personal consumption expenditures are the largest component of U.S. GDP and accounted for approximately 69.5 percent of spending in 2017. Consumer spending is influenced by factors such as wage growth, consumer confidence, and the state of the labor market – all three of these factors showed positive trends for 2017.²

² Matthew N. Murray et al., *An Economic Report to the Governor of the State of Tennessee: The State's Economic Outlook January 2018*, Boyd Center for Business and Economic Research, University of Tennessee, January 2018, pp. 3-4, <http://cber.haslam.utk.edu>.

Wage Growth

The U.S. Labor Department reported in January 2018 that wages were up 2.9 percent over the previous year, the best year-to-year growth since 2009. Wage growth has been the last major economic indicator to show meaningful growth since the end of the Great Recession.³ Some economists anticipate that the new federal tax law, the Tax Cuts and Jobs Act of December 2017, will lead to additional growth in wages as corporations respond to the new tax law by increasing employee compensation.



Source: Federal Reserve Bank of St. Louis, Compensation of Employee, Received: Wage and Salary Disbursements, February 23, 2018, <https://fred.stlouisfed.org>

Wage growth can lead to further improvement in economic indicators. Consumer spending, the largest component of GDP, often increases with wage growth. In addition, as consumer spending increases businesses increase hiring. The Federal Reserve minutes from January 31st, 2018 have noted the correlation.

Participants expected the recent solid growth in consumer spending to continue, supported by further gains in employment and income, increased household wealth resulting from higher asset prices, and high levels of consumer confidence.⁴

³ Patrick Gillespie, *American Gets a Raise: Wage Growth Fastest Since 2009*, CNN Money, February 2, 2018 <http://www.money.cnn.com>.

⁴ Federal Open Market Committee, *Minutes from meetings January 31st, 2018*, p.14, <https://www.federalreserve.gov>.

Wage growth is expected to get a boost from the strong labor market, which is forecasted to hit full employment this year. Economists polled by Reuters expect the national unemployment rate to hit 3.5 percent by the end of 2018.⁵ The U.S. economy added 200,000 jobs in January 2018, and wages grew at the fastest pace in eight years. Wages were up 2.9 percent compared with a year earlier, the best pace since June 2009.

Consumer Confidence

Consumer confidence increased in January 2018, after a surprise decline the previous month. The Conference Board's measure of consumer confidence rose to 125.4 in January 2018, higher than the 123.1 anticipated by economists.⁶ Household spending rose in the fourth quarter of 2017 at the fastest pace since the second quarter of 2016.⁷ According to the January 2018 consumer confidence survey by the Conference Board, American consumers continue to be optimistic due to an unemployment rate near a 17-year low, modest inflation, solid economic growth, and higher stock prices. The percentage of Americans who expect stock prices will continue to increase in 2018 rose to 51.6 percent, the highest percentage recorded since 1987. According to a February 2018 study by the University of Michigan consumer sentiment rose in early February 2018, to its second highest level since 2004, despite recent volatility in the stock market. Stock volatility was outweighed by rising incomes, employment growth, and by net favorable perceptions of the tax reforms.⁸

Labor Market

The labor market continued to tighten in 2017, with the national unemployment rate falling to 4.1 percent by January 2018. Tennessee's unemployment rate in December 2017 was notably lower, at 3.2 percent, than the national rate and is expected to remain below the national rate throughout the long-term forecast horizon.⁹

As the unemployment rate has dropped, economists have begun to wonder whether the U.S. economy has reached full employment - the point at which the unemployment rate falls to the lowest point possible without triggering inflation. An unemployment rate this low is a positive for consumer spending, as workers who have found a job spend money and further boost the economy. The other side of the coin, though, is that an unemployment rate that drops too low can cause an unwanted rise in inflation, which erodes the purchasing power of the dollar. As employers compete to hire workers, the resulting accelerated wage growth contributes to inflationary pressures. Given this situation, some policymakers at the Federal Reserve Board think interest rates should be increased further in the near future to stem inflation. Other

⁵ Lucia Mutikani, *U.S. Private Payrolls Rise Strongly, Wage Growth Picking Up*, Reuters, January 31, 2018, <https://www.reuters.com>.

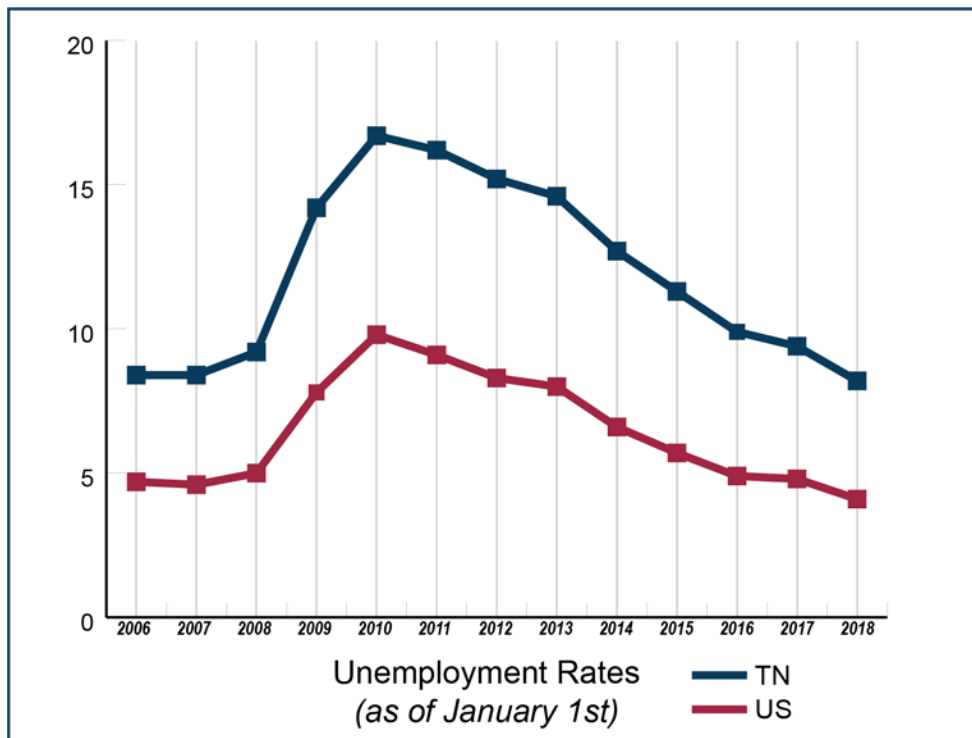
⁶ Michael Sheetz, *Consumer Confidence Jumps as Americans Expect 2017 Momentum to Continue*, CNBC, January 30, 2018, <https://CNBC.com>.

⁷ Katia Dmitrieva, *U.S. Consumer Confidence Rose More Than Forecast in January*, Bloomberg, January 30th 2018, <https://www.bloomberg.com>.

⁸ Richard Curtin, *Survey of Consumers*, University of Michigan, February 2018, <https://www.umich.edu>

⁹ Matthew N. Murray et al., *An Economic Report to the Governor of the State of Tennessee: The State's Economic Outlook January 2018*, Boyd Center for Business and Economic Research, University of Tennessee, January 2018, pp. 60, <http://cber.haslam.utk.edu>.

policymakers at the Board think interest rates should be held steady for now because inflation, at 1.5 percent, remains below the Fed's target of 2.0 percent.



Source: Federal Reserve Bank of St. Louis, Civilian Unemployment Rate, February 20, 2018, <https://fred.stlouisfed.org>

Labor Force Participation

The labor force participation rate increased between 1948 until the late 1990s. From 1948 to 1963, the rate remained below 60 percent. As more women entered the labor force the rate slowly inched up, breaking 61 percent in the early 1970s. It rose to 63 percent in the 1980s and reached a peak of 67.3 percent in 2000.

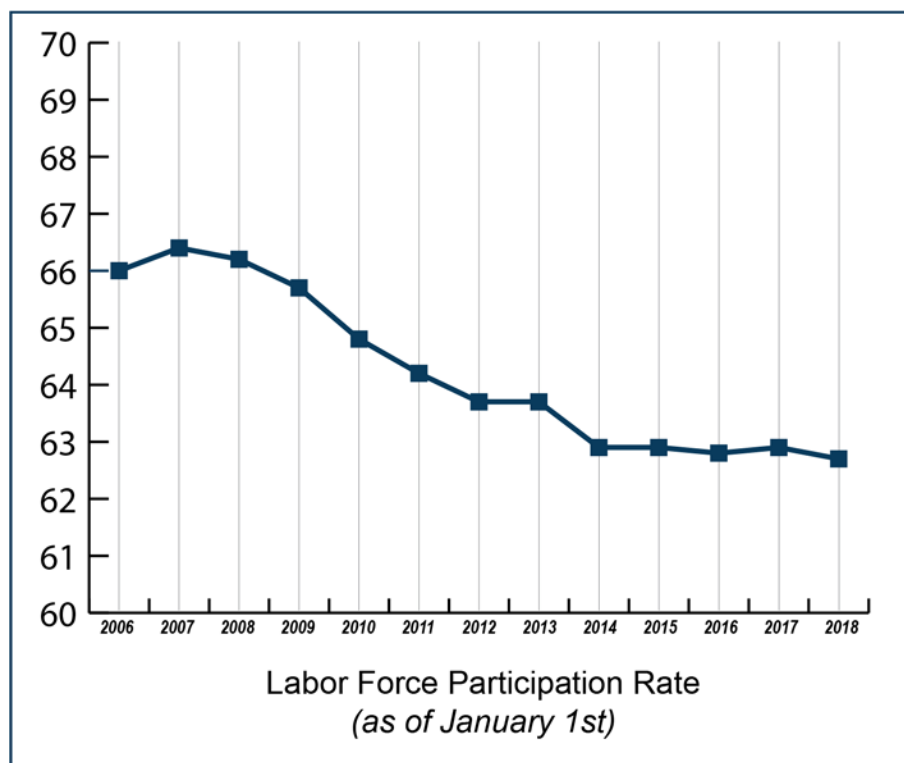
In recent years there has not been much movement in the participation rate. This stability is actually the result of two rather large countervailing dynamics. Demographic factors have been pulling down participation while economic, cultural, or other behavioral factors have been pushing up the rate of participation.¹⁰

The labor force participation rate impacts the vitality of local and state economies, tax base, and workforce and has many national implications as it continues to fluctuate.¹¹ Businesses depend on skilled labor to make decisions regarding growth and location. If the labor force

¹⁰ *Labor Force Participation Dynamics*, Federal Reserve Bank of Atlanta, February 2018, <https://www.frbatlanta.org>.

¹¹ Andrew Pack, *How the Shrinking of the Labor Force Might Impact Your Community*, Federal Reserve Bank of St. Louis, Fall 2014, <https://www.stlouisfed.org>.

participation rate continues to decline, attracting workers will become an even greater issue for economic competitiveness.



Source: Federal Reserve Bank of St. Louis, Civilian Labor Force Participation Rate, February 20, 2018, <https://fred.stlouisfed.org>

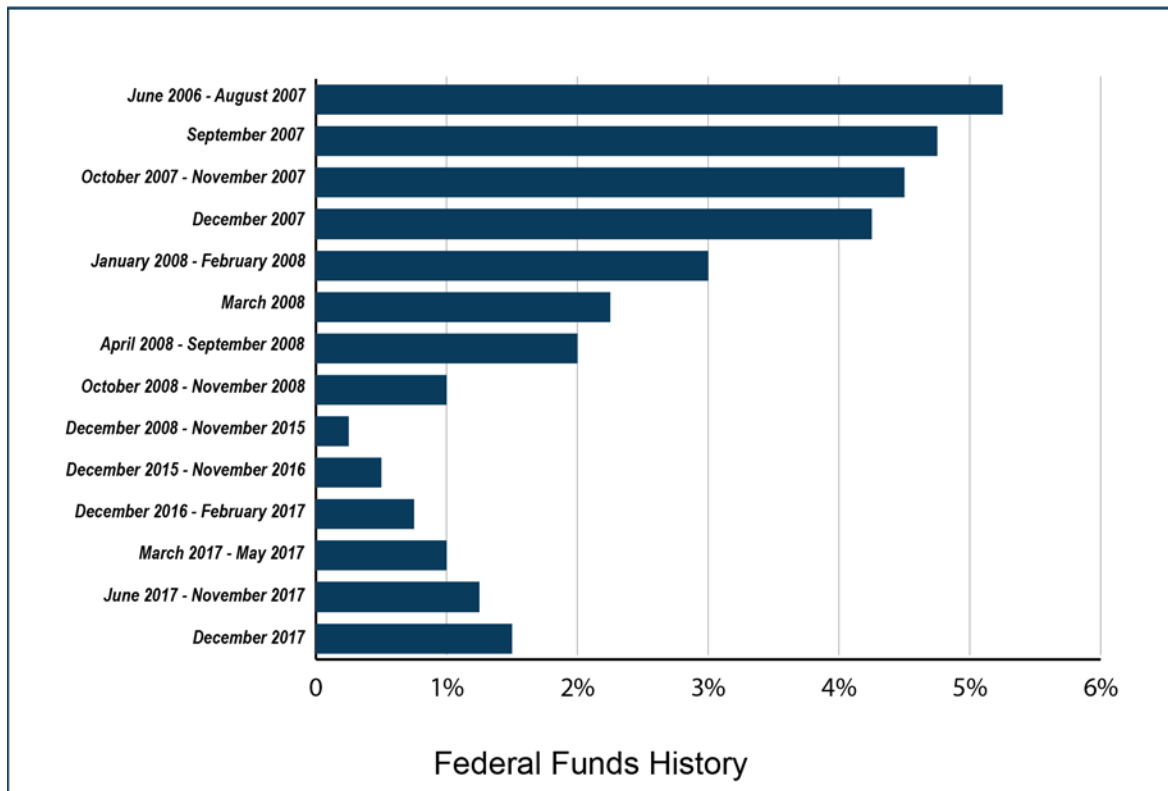
Inflation and Interest Rates

Total U.S consumer prices, as measured by the Personal Consumption Expenditures (PCE) index, increased by only 1.5 percent over the 12 months ending in October 2017. Recent figures for key factors that influence consumer spending – including gains in employment, real disposable personal income, and household net worth – continued to be supportive of moderate real PCE growth in the fourth quarter. Citing strong economic growth and market expectations, the Federal Reserve increased the Federal Funds rate by 0.25 percent to a target range of 1.25 to 1.50 percent in December 2017.

Minutes of the Federal Reserve Bank from December 13th, 2017 describe their views:

Federal Reserve communications and economic data releases over the intermeeting period were characterized by market participants as reinforcing perceptions of a likely increase in the target range for the federal funds rate at the December meeting. The probability of an increase as implied by quotes on federal funds futures contracts edged

up to around 95 percent, roughly consistent with the average probability indicated by responses to the Desk's surveys of primary dealers and market participants in December.¹²



An increased Federal Funds Rate makes it more expensive for banks to borrow money from the Fed, and this, in turn, leads banks to increase interest rates on loans and lines of credit to individuals and businesses. As borrowing becomes more expensive, individuals may reduce spending and businesses may slow or cut back on expansion plans, which can curtail economic growth.

Increasing interest rates can also affect the federal budget, the interest on which is approximately \$266 billion annually. As interest rates rise, there is a risk that debt service requirements could crowd out resources for other purposes that may increase economic growth, such as investments in defense, infrastructure improvements, and domestic programs.

Tax Cuts

President Trump signed the Tax Cuts and Jobs Act (TCJA) into law on December 22, 2017. The TCJA represents the most comprehensive reform to the U.S. tax code in over thirty years and took effect January 1, 2018. Some of the law's major provisions include:

¹² Federal Open Market Committee, [Minutes from meetings December](https://www.federalreserve.gov) 13th, 2017, p. 4, <https://www.federalreserve.gov>.

- Increased standard deduction – Those who are married and filing jointly will have an increased standard of \$24,000, up from \$13,000
- Death Tax exemption doubled – The Death tax exemption doubles to \$11.2 million per individual in 2018.
- Increased Child Tax Credit – The Child tax credit has been raised to \$2,000 from \$1,000.
- Decreased corporate tax – The Corporate tax rate fell from 35 percent to 21 percent.

CBER estimates that major tax reform will be implemented and will increase output growth by approximately 0.3 percent above the current estimates. At the Federal Reserve's December 13, 2017 meeting, held before passage of the TCJA, the forecast for real GDP growth was revised up modestly in anticipation of the reduction in federal income taxes. Federal Reserve staff projected that real GDP would increase at a "modestly faster pace than potential output through 2019."¹³

The TCJA has increased corporate cash flow and produced an opportunity to expand. While some corporations will increase dividend payments or share buybacks, many have chosen to increase pay and benefits for their employees. Approximately 370 companies, employing over 3.5 million Americans, have announced bonuses, raises, or 401(k) increases since the TCJA was signed into law. But it is not just the 3.5 million Americans employed by these companies, however, that can expect more money in their pockets – the Treasury Department estimated in January 2018 that 90 percent of American workers are likely to see increased take-home pay as a result of the TCJA.¹⁴

Small businesses are benefiting from the TCJA as well. The small business optimism index increased five points in February 2018 to reach a record high of 62, the index's largest quarter-to-quarter change. The largest increases in optimism among small businesses came from companies with five to nine employees.¹⁵ Tennessee enjoys a large small business population. Over 94 percent of businesses in Tennessee have 20 or fewer employees.¹⁶ The confidence that small businesses have shows that Tennessee and small business is ready to grow.

¹³ Ibid

¹⁴ Jeanne Sahadi, *Treasury: 90% of Wage Earners Will Likely See Higher Take-Home Pay*, CNN Money, January 11, 2018, <https://www.money.cnn.com>.

¹⁵ Kate Rogers, *Small-business Confidence Hits Record High in 2019 after Trump Tax-Reform Win*, CNBC, February 2018, <https://www.cnbc.com>.

¹⁶ Small Business Advocate Annual Report